INSTALLATION GUIDE

TX transmitter for gas meters with pulse interface
TX PULSE ATEX 800-010 (868 MHz)

IP 65

Ex

IG UK 800-010-a

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Enless Wireless
Expert Wireless M2M

DECLARATION CE DE CONFORMITE
EC DECLARATION OF CONFORMITY

We Enless Wireless
45 ter avenue de Verdun
33520 Bruges
France

Declare under our sole responsibility that the product

Designation:	Radio transmitters
Product Name(s) & References	TX PULSE ATEX 800-010
Attestation	LCIE 14 ATEX 3013 X

Notifiée par le LCIE 33 avenue du Général Leclerc - 92260 Fontenay aux Roses (France)
Numéro LCIE : 0081

To which this declaration relates satisfy the provision of **Directive ATEX 94/9/EC** of the European parliament and the council of 23 March 1994

- **is in conformity with the following standard(s) or other normative document(s)**

  - **EN60079-0 : 2012 / EN60079-11:2012**

The marking is:

II 1 G Ex ia IIC T3 Ga

- **Fulfill the directives & standards**

  - **RTTE 99/5/EC of 9 March 1999**
  - **RoHS 2011/65/EU of 1 July 2011**
  - **EN300 220-1&2 V2.4.1 (2012-05)**
  - **EN301 489-1 V1.9.2 (2011-09)/ EN 301 489-3 V1.4.1 (2002-08)**
  - **EN 60950-1: 2006 + A11:2009 + A12:2011 + AC: 2011**
  - **EN 5081:2012**
  - **EN61000-4-2: 2009**

Date: 05/05/2014

Bruno Petit (Gérant)

REMINDER REGARDING INSTALLATION OF TX PULSE ATEX 800-010

Referring to ATEX Directive 1999/92/CE only operators trained for risk areas are allowed to install TX PULSE ATEX 800-010. No changes to TX PULSE ATEX 800-010 are allowed.

Special conditions for a safe installation

TX PULSE ATEX 800-010 shall only be connected to intrinsically safe certified equipment .This combination must be compatible as regard intrinsic safety rules Uo, lo , Po, Co, Lo specified on TX PULSE ATEX 800-010 label

Certifications

TX PULSE ATEX 800-010 is ATEX certified

<Ex> II 1 G
Ex ia IIC T3 Ga
-20°C ≤ Tamb ≤ +55°C
LCIE 14 ATEX 3013 X
Uo: 3,9V; Io:900mA; Po: 153mW; Co: 63µF; Lo: 44µH

TX PULSE ATEX 800-010 complies with standards : EN60079-0 et EN6079-11

Battery

TX PULSE ATEX 800-010 is delivered with ER14505 battery

Only ER14505 battery can be used with TX PULSE ATEX 800-010.

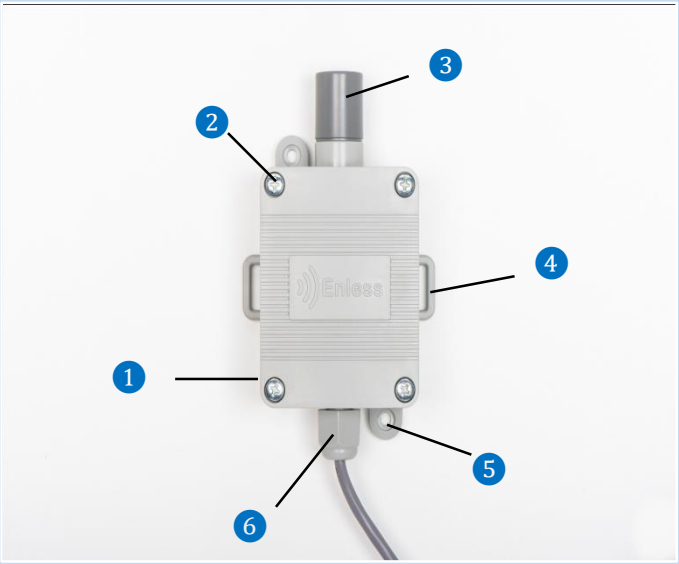
Contact details for supplying ER14505 battery: Enless Wireless - 45 ter avenue de Verdun 33520 Bruges (France). Telephone: +33 (0)5 56 37 97 47 – E-mail : contact@enless.fr

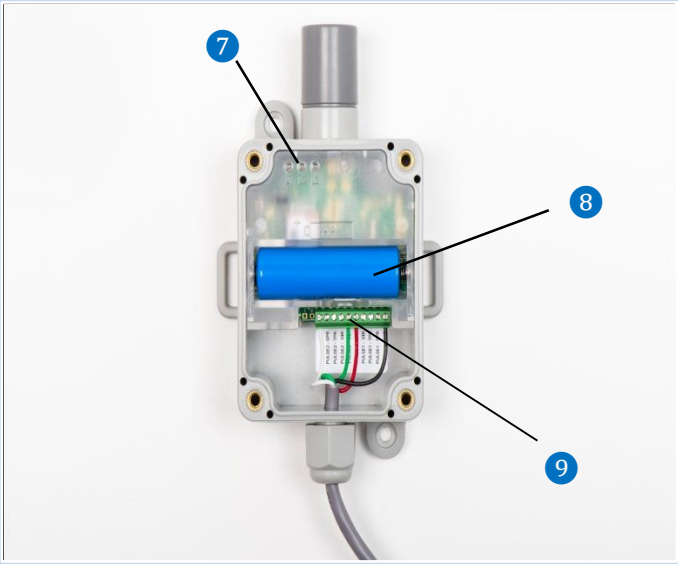
WARNING - DANGER POTENTIAL ELECTROSTATIC CHARGES

TX PULSE ATEX 800-010 must only be cleaned with damp rag

DESCRIPTION

TX PULSE ATEX 800-010





1. Identification label
2. Screws for opening/closing the lid
3. Antenna
4. Clamp collar bracket
5. Wall mounting bracket
6. Gland for wires to be connected to the meter
7. LED indicators(L1, L2, L3)
8. ER14505 AA 3.6 V battery
9. Pulse Terminal block

1 Identification label

Transmitter designation and reference
> TX PULSE ATEX 800-010

Radio frequency
> 868 MHz

Transmission periodicity
> 5mn (default periodicity). Configurable between 1 and 250 minutes

Retry
> 0 (no retry – default value)

Device ID
> 8 digit display under barcode

CONFIGURATION OF THE TX PULSE ATEX 800-010

FCT (Field Configuration Tool) software allows installation of the transmitters and configuration of RX MODBUS Receiver. Please refer to FCT user manual available on www.enless.fr

1) Position your laptop PC to the place where you intend to install the RX USB or RX MODBUS receiver. FCT software is running on your PC.

2) Connect the RX USB or RX MODBUS receiver to the USB port of your PC. If you are using RX MODBUS Receiver for the installation of the transmitters, switches DIP 1 & DIP 2 must be configured the following way

- DIP1: switches 5 & 6: ON - all other switches OFF
- DIP2: switches 1, 2 & 3 OFF

Please refer to FCT manual for the complete installation of RX MODBUS Receiver

3) Fit the antenna on RX USB or RX MODBUS SMA connector

4) Start FCT software on your PC. Select English and type your user name

5) Click on "**Refresh list** ". The USB COM Port you have connected the receiver to will be selected.

6) Click on "**Connect**". The receiver is now connected to the PC ready to receive data from TX PULSE ATEX 800-010

Message in the dialog box:
Serial Port Connected: COMx@xxxxx

7) Select the family of the transmitters you want to install

For this product you have to select « **Tx Pulse** » tab, then click on Edit / View.

A new window will open.

8) Click on this button to add the TX PULSE ATEX 800-010 transmitter

- Fill in the ID in the Address field.
  Important: this ID is composed of 8 numbers.
- Define periodicity, retry, pulse count 1 and pulse count 2

Then, click on **OK** to add these transmitters to your configuration file.

9) Click on “Start Configuration”. You can now install the TX PULSE ATEX 800-010 transmitter.

INSTALLATION OF TX PULSE ATEX 800-010

CONNECT TX PULSE ATEX 800-010 TO THE METER

TX PULSE ATEX 800-010 is provided with 4 wires allowing connection up to 2 meters

Meter 1 - input 1

Input 1: wires are labeled A+ and A-.

A+ is connected on terminal block to PULSE 1 - INP

A - is connected on terminal block to GND

Meter 2 - input 2

Input 2: wires are labeled B+ et B -.

B+ is connected on terminal block to PULSE 2 - INP

B - is connected on terminal block to GND

Length of the wires: 150 cm.

You should avoid extending the length of these wires because of potential interferences which could generate wrong pulses

INSTALL TX PULSE ATEX 800-010

- Set TX PULSE ATEX 800-010 at least 1.5 meter above the ground.

- Install TX PULSE ATEX 800-010
  - ✓ Wall mounting with 2 brackets 5 or
  - ✓ Collar mounting with 2 brackets 4 or
  - ✓ DIN Rail (adaptor to be fitted at the back of the transmitter enclosure)

TX PULSE ATEX 800-010 must always be installed with antenna 3 upwards

OPEN TX PULSE ATEX 800-010 ENCLOSURE

Open the lid using the 4 screws 2

START RADIO COMMUNICATION BETWEEN TX PULSE ATEX 800-010 AND RECEIVER

Fit battery in its compartment. Pull out the paper which isolate the battery from the + connector.

LED indicators L1, L2 & L3 will blink simultaneously. L1 will blink every 3 seconds.

TX PULSE ATEX 800-010 is now entering configuration/installation mode. TX PULSE ATEX 800-010 will try to connect to the RX USB or RX MODBUS Receiver **during 1 minute maximum**

If LEDs don't blink when inserting the battery and pulling out the paper, remove the battery from its compartment and try again.

If TX PULSE ATEX 800-010 is within the range of RX USB or RX MODBUS Receiver successful installation/configuration messages as well as RSSI (Radio signal strength) will be displayed in the "message window" of FCT software

The combination of L1, L2 and L3 LED indicators will confirm success or failure of the installation. See below.

L1, L2 and L3 LED INDICATORS COMBINATION

SUCCES OF INSTALLATION

L2 & L3 LED indicators will remain ON for 30 seconds confirming the success of the installation. Transmitter is connected to RX USB or RX MODBUS Receiver.
Transmitter will then switch to communication mode. It will send its data at defined periodicity (5 minutes default periodicity).
L1 LED indicator will blink every minute
L2 LED indicator will blink every time data will be sent from the transmitter to the receiver.

SUCCESS OF THE INSTALLATION BUT LOW RSSI SIGNAL

L1, L2 & L3 LED indicators will remain ON for 30 seconds confirming the success of the installation. Transmitter is connected to the RX USB or RX MODBUS receiver.
However L1 LED ON confirm that the RSSI signal is low (-85 dBm or less)
Message FCT: Installation is successful for (Transmitter address).
Transmitter will then switch to communication mode. It will send its data at defined periodicity (5 minutes default periodicity)
L1 LED indicator will blink every minute
L2 LED indicator will blink every time data will be sent from the transmitter to RX USB or RX MODBUS receiver

FAILURE OF THE INSTALLATION

After 1 minute the transmitter failed to connect to RX USB or RX MODBUS receiver.
L2 & L3 LED indicators will blink for 30 seconds meaning the transmitter is not within the range of RX USB or RX MODBUS receiver.
There is no message displayed on FCT software
Transmitter will then switch to communication mode. It will try to send its data at defined periodicity.
L1 LED indicator will blink every minute
L2 LED indicator will blink every time data will be sent from the transmitter to RX USB or RX MODBUS receiver.

In case of installation failure

1. Move the RX USB or RX MODBUS receiver antenna in order to optimize radio propagation.

2. Move the transmitter if you can and try the procedure again

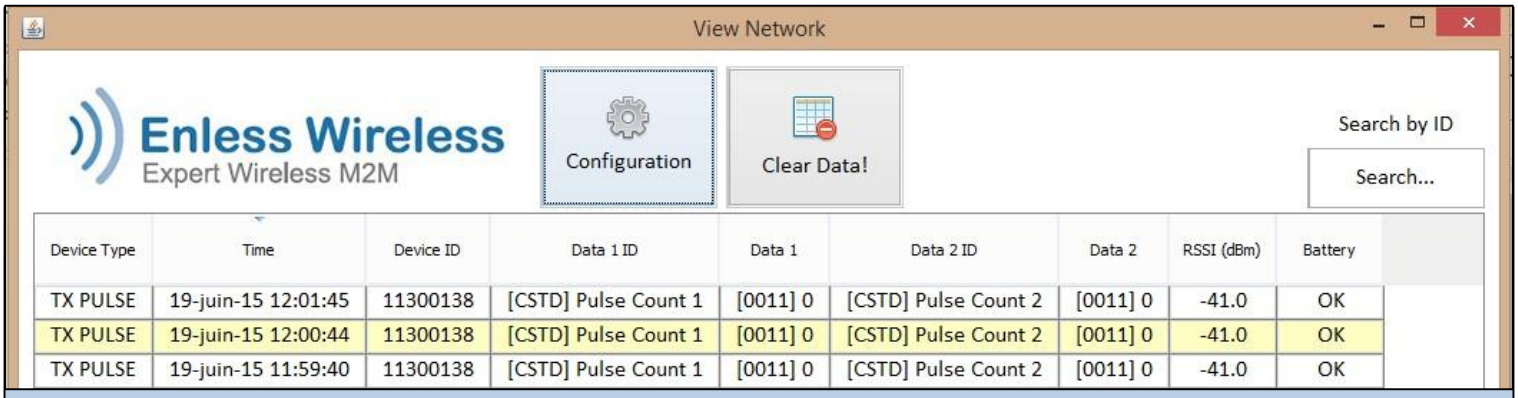
If the problem remains you will have to install a repeater between transmitter and RX USB or RX MODBUS receiver.

CLOSE TX PULSE ATEX 800-010 ENCLOSURE

Close the lid using the 4 screws 2

CHECK DATA RECEPTION FROM TX PULSE ATEX 800-010 WITH FCT SOFTWARE

With FCT software you will be able to check that data from TX PULSE ATEX 800-010 are received correctly by RX USB or RX MODBUS Receiver. Click on **«Stop configuration»**. Then click on **«View network»**. You will see data from the TX PULSE ATEX 800-010 displayed on FCT software.



Device Type	Time	Device ID	Data 1 ID	Data 1	Data 2 ID	Data 2	RSSI (dBm)	Battery
TX PULSE	19-juin-15 12:01:45	11300138	[CSTD] Pulse Count 1	[0011] 0	[CSTD] Pulse Count 2	[0011] 0	-41.0	OK
TX PULSE	19-juin-15 12:00:44	11300138	[CSTD] Pulse Count 1	[0011] 0	[CSTD] Pulse Count 2	[0011] 0	-41.0	OK
TX PULSE	19-juin-15 11:59:40	11300138	[CSTD] Pulse Count 1	[0011] 0	[CSTD] Pulse Count 2	[0011] 0	-41.0	OK

DEVICE TYPE: TX PULSE

TIME: Date & Time of data transmitted by TX PULSE ATEX 800-010

DEVICE ID: Unique 8 digit address from TX PULSE ATEX 800-010

DATA 1 ID: Pulse count 1

DATA 1: Data received by the receiver

DATA 2 ID: Pulse count 2

DATA 2: Data received by the receiver

RSSI SIGNAL: Radio signal strength (dBm) between TX PULSE ATEX 800-010 transmitter and RX USB or RX MODBUS Receiver

> from -10 to -50 dBm : excellent radio quality signal
> from - 50 to -85 dBm : good radio quality signal
> from -85 dBm and lower : low radio quality signal

BATTERY: Level of battery